

What is claimed is:

1. A system for the creation or modification of an orthopedic joint within a mammalian body, the system comprising a polymeric implant that provides a major surface adapted to be positioned against a metatarsal bone and an end adapted to be retained within a phalange.
2. An implant in accordance with claim 1 wherein the implant comprises a body and a shank.
3. An implant in accordance with claim 2 wherein the implant includes a means for stabilization.
4. An implant in accordance with claim 3 wherein the means for stabilization include barbs.
5. An implant in accordance with claim 3 wherein the means for stabilization include sharp points.
6. An implant in accordance with claim 3 wherein the means for stabilization include splines.
7. An implant in accordance with claim 3 wherein the means for stabilization include diamond patterns.
8. An implant in accordance with claim 1 wherein the implant comprises a biomaterial.
9. An implant in accordance with claim 8 wherein the biomaterial comprises a polyurethane.
10. An implant according to claim 9 wherein the polyurethane is biocompatible with respect to cytotoxicity, sensitization, genotoxicity, chronic toxicity, and carcinogenicity.
11. An implant according to claim 9 wherein polyurethane has a Shore hardness of at least about 60 D or less.
12. A kit for a positional arthroplasty system, the kit comprising:
 - a) an implant that provides a major surface adapted to be positioned against a metatarsal bone and an end adapted to be retained within a phalange, and
 - b) one or more devices adapted to perform one or more steps selected from the group consisting of preparing the joint to receive an implant, determining an

appropriate implant size for a particular joint, inserting the implant into the joint, and/or securing the implant to a desired extent.

13. A kit according to claim 12 wherein the kit includes a includes an impactor.
- 5 14. A kit according to claim 12 wherein the kit includes a reamer.
15. A kit according to claim 12 wherein the kit includes a depth stop.
16. A kit according to claim 12 wherein the kit includes a bone smoother.
17. A kit according to claim 16 wherein the smoother is fenestrated.
18. A kit according to claim 12 wherein the kit includes a diameter gauge.
- 10 19. A method of repairing a metatarsophalangeal joint, comprising the steps of providing and implanting according to claim 1.
20. A metatarsophalangeal joint that includes an implant according to claim 1.
21. A kit comprising a tool useful for preparing a joint to receive an
15 implant, an apparatus useful for determining an appropriate implant size for the joint, an apparatus useful for determining an appropriate implant thickness, and a tool useful for inserting the implant into the joint and/or securing the implant to a desired extent.
- 20 22. A device for implantation into a toe joint space within the body of a mammal, the device comprising a composite or monolith structure fabricated from a biocompatible, biodurable material that is adapted to be inserted into the joint compartment.
- 25 23. A device according to claim 22 wherein the implanted device is substantially free of anchoring portions that need to be attached to the bone, cartilage, ligaments or other tissue, yet by its design is capable of being used with minimal translation, rotation, or other undesired movement or dislocation within or from the joint space.
- 30 24. A device according to claim 23 wherein stability of the device within the joint space is provided by the fixation/congruency of the device to the one or the other of the two joint members.